



US009636785B2

(12) **United States Patent**
Traver et al.

(10) **Patent No.:** **US 9,636,785 B2**
(45) **Date of Patent:** **May 2, 2017**

(54) **POSITIVE LOCKING HANDLE AND SELF CENTERING MECHANISM FOR TRACK ENGAGEMENT**

(71) Applicant: **LINCOLN GLOBAL, INC.**, City of Industry, CA (US)

(72) Inventors: **Richard Dean Traver**, San Diego, CA (US); **Jamil Snead**, San Diego, CA (US)

(73) Assignee: **LINCOLN GLOBAL, INC.**, City of Industry, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 296 days.

(21) Appl. No.: **14/178,896**

(22) Filed: **Feb. 12, 2014**

(65) **Prior Publication Data**

US 2015/0129573 A1 May 14, 2015

Related U.S. Application Data

(63) Continuation-in-part of application No. 29/472,389, filed on Nov. 12, 2013.

(Continued)

(51) **Int. Cl.**
B23K 9/28 (2006.01)
A47J 36/02 (2006.01)

(Continued)

(52) **U.S. Cl.**
CPC **B23K 37/0211** (2013.01); **B23K 9/0286** (2013.01); **B23K 9/0956** (2013.01);
(Continued)

(58) **Field of Classification Search**

CPC B23K 2201/06; B23K 37/0211; B23K 37/0217; B23K 37/0276; B23K 37/0282;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,114,793 A 10/1914 Murray
3,135,850 A * 6/1964 Scheiler B23K 9/0286
219/60 A

(Continued)

FOREIGN PATENT DOCUMENTS

DE 20 2004 018670 U1 3/2005
GB 898 197 6/1962

(Continued)

OTHER PUBLICATIONS

Helix T55 Weld Head and Track Ring Sheet; by Lincoln Electric, Publication E0.610, Issue Date Dec. 2012.

Primary Examiner — Dana Ross

Assistant Examiner — Ket D Dang

(74) *Attorney, Agent, or Firm* — Foley & Lardner LLP

(57) **ABSTRACT**

The invention described herein generally pertains to locking mechanisms for levers operable to mount a tractor unit to a guide track and to engage a drive gear of the tractor unit to a track gear of the guide track. The levers for mounting the tractor unit and/or to engage the drive gear are lockable in a closed position. The closed position relates to a state of the levers when the tractor unit is mounted on the guide track or when the drive gear is engaged with the track gear. The levers can be easily operable to mount/dismount or engage/disengage, respectively.

20 Claims, 16 Drawing Sheets

